

What is claimed is:

1. A compressor with intake and discharge chambers for a suction pressure zone and a discharge pressure zone, the compressor comprising:

- a housing;
 - a housing sealing cover, the housing sealing cover being a housing cover or a sealing plate;
 - a drive shaft including bearings;
 - a drive mechanism for reciprocating pistons and converting the rotational movement of the drive shaft into a reciprocating movement of the pistons;
 - a cylinder block for aspirating and compressing a coolant through the reciprocating movement of the pistons;
 - a valve device; and
 - a cylinder head, the cylinder head at least partially forming the intake and discharge chambers,
- the cylinder head being a separate element from the housing, in pot-shaped form, or the housing sealing cover.

2. The compressor as recited in claim 1 wherein the housing in pot-shaped form or the housing cover or the sealing plate are made from steel and the cylinder head is made from an aluminum material.

3. The compressor as recited in claim 1 wherein the housing is designed as a thin-walled tube and the housing sealing cover is a sheet metal plate or a sheet metal pot having a wall thicker than the housing.

4. The compressor as recited in claim 3 wherein the sealing plate or a bottom of the housing cover is elastically deformable so that in one area a contact force acts on the cylinder head and clamps the cylinder head between the valve device and the sealing plate or the housing cover.

5. The compressor as recited in claim 4 wherein the sealing plate is pressed against the cylinder head using a threaded ring or being screwed to the housing.
6. The compressor as recited in claim 4 wherein the housing sealing cover is a pot-shaped sheet steel part having internal threads.
7. The compressor as recited in claim 1 wherein the cylinder head has circumferential sealing webs pressed against the valve device by the sealing plate or a bottom of the housing cover, the sealing plate or the housing cover bottom being elastic.
8. The compressor as recited in claim 1 wherein pressure conduits of solenoid valves are welded to the housing cover or the sealing plate.
9. The compressor as recited in claim 1 wherein the housing cover or the sealing plate has mounting devices.
10. The compressor as recited in claim 9 wherein the mounting devices are arranged to permit a screw-in torque used to screw the housing cover or the sealing plate to the housing during assembly, the housing being a tube.
11. The compressor as recited in claim 1 wherein the housing is a thin tube and has threads and a stress-reducing structure reducing stress on the threads.
12. The compressor as recited in claim 9 wherein the mounting devices are produced during the forging or extrusion.
13. The compressor as recited in claim 9 wherein the mounting devices are eyes, lugs, or tabs.
14. The compressor as recited in claim 1 wherein the compressor is a motor vehicle air conditioner compressor.

15. The compressor as recited in claim 1 wherein the valve device is valve plate having intake and discharge valves.

16. The compressor as recited in claim 1 wherein the housing is made from steel.

17. The compressor as recited in claim 1 wherein the housing, in pot shaped form, or the housing cover or the sealing plate are made from a material having properties similar to steel and the cylinder head is made from an aluminum material.

18. The compressor as recited in claim 4 wherein the cylinder head is an insert between the valve plate and the sealing plate or the housing cover.

19. A compressor with intake and discharge chambers for a suction pressure zone and a discharge pressure zone, the compressor comprising:

 a pot-shaped housing and a housing sealing cover so that a housing area is defined by two pieces, the pot-shaped housing having a closed side with a housing bottom;

 a drive shaft including bearings;

 a drive mechanism for reciprocating pistons and converting the rotational movement of the drive shaft into a reciprocating movement of the pistons;

 a cylinder block for aspirating and compressing a coolant through the reciprocating movement of the pistons; and

 a valve device;

 the intake and discharge chambers, the valve device, and the cylinder block being situated in the closed side of the pot-shaped housing.

20. The compressor as recited in claim 19 wherein the housing is closed to an outside in an area of the cylinder block and the valve device, the housing being free of housing divisions and sealing devices to the outside in the area.

21. The compressor as recited in claim 19 wherein the compressor has a drive area and a high-pressure zone, the compressor further comprising a seal for the drive area, the housing sealing cover and the seal of the drive area being situated toward an environment on a side of the compressor opposite the high pressure zone.

22. The compressor as recited in claim 21 wherein the seal of the compression chamber to the outside is accomplished by a gasket between the pot-shaped housing and the housing sealing cover.

23. The compressor as recited in claim 21 wherein the housing and housing sealing cover sealing devices are situated on a side of the compressor opposite a greatest heat source.

24. The compressor as recited in claim 21 wherein the sealing devices are threads or ring nuts or screws or flanged joints or welds.

25. The compressor as recited in claim 19 wherein a shaft lead-through to the outside, the shaft bearings, and shaft gaskets are situated in an area of the housing sealing cover.

26. The compressor as recited in claim 19 further comprising a spacer separating the intake pressure zone and the discharge pressure zone within the housing bottom, the cylinder block and the valve device being supported against the housing bottom by the spacer.

27. The compressor as recited in claim 26 further comprising a second spacer separating the discharge pressure zone and the drive area pressure zone within the housing bottom.

28. The compressor as recited in claim 26 wherein the spacer is integrated in the housing bottom.

29. The compressor as recited in claim 19 wherein the compressor is a motor vehicle air conditioner compressor.

30. The compressor as recited in claim 19 wherein the valve device is valve plate having intake and discharge valves.